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ABSTRACT

This document outlines the collection development policies for the Eisenhower National Clearinghouse for Mathematics and Science Education (ENC). It details the clientele the collection is intended to serve, the scope and boundary of the collection, the methods employed to identify and acquire resources for the collection, the selection and prioritization process, and general collection maintenance considerations. The policies outlined here are those used by ENC staff to develop and maintain the physical and online collections. The physical collection contains those items obtained by the Clearinghouse and stored in the on-site repository or at the Capital Collection at The George Washington University (Washington, D.C.). The online collection consists of electronic resources such as computer databases containing images and text, World Wide Web, Gopher, and other resources that exist only as electronic files that can be made available to ENC clientele through Internet links using references in the ENC catalog or links within ENC Online, the ENC website. (PVD)

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Collection Development Policy

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Eisenhower National Clearinghouse for Mathematics and Science Education

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Collection Development Policy

September 1996

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Legislation Authorizing the Eisenhower Clearinghouse for Mathematics and Science Education

Public Law 101-589

Excellence in Mathematics, Science, and Engineering Act of 1990
Dwight D. Eisenhower Mathematics and Science Education

The Excellence in Mathematics, Science, and Engineering Act of 1990 authorized the Eisenhower National Clearinghouse for Science and Mathematics Education Materials to be established as part of the Eisenhower National Program. Under this legislation, the Clearinghouse is authorized to:

> (A) maintain a permanent repository of mathematics and science education instructional materials and programs for elementary and secondary schools, including middle schools, (including, to the extent practicable, all materials and programs developed with Federal and non-Federal funds, such as instructional materials developed by the Department of Education, materials developed by State and national mathematics and science programs..., and other instructional materials) for use by the regional consortiums... and by the general public;
>
> (B) compile information on all mathematics and science education programs administered by each Federal agency or department;
>
> (C) disseminate information, programs, and instructional materials to the public, dissemination networks, and the regional consortiums.
>
> (D) coordinate with identifiable and existing data bases containing mathematics and science curriculum and instructional materials, including Federal and non-Federal data bases.

In addition, each Federal agency is mandated to submit copies of mathematics and science education instructional materials or programs developed by them to the Clearinghouse.

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I. Introduction

A. Purpose of This Document

This document outlines the Collection Development Policies for the Eisenhower National Clearinghouse for Mathematics and Science Education (ENC or Clearinghouse). As such, it details the clientele the collection is intended to serve, the scope and boundary of the collection, the methods employed to identify and acquire resources for the collection, the selection and prioritization process, and general collection maintenance considerations.

The policies outlined here are those used by Clearinghouse staff to develop and maintain the Clearinghouse physical and online collections. The physical collection includes those items obtained by the Clearinghouse and stored in the Clearinghouse repository or at the Capital Collection at The George Washington University. The online collection consists of electronic resources such as computer databases containing images and text; and World Wide Web (WWW), Gopher, and other resources that exist only as electronic files on ENC computer equipment or can be made available to ENC clientele through Internet linkages using, as a starting point, references in the ENC catalog or links within ENC Online, the ENC WWW site.

This Collection Development Policy does not address the process of development of catalog records, nor does it address the development of many of the special resources produced by ENC such as the Catalog of Federal Programs, the Federal Programs Database, or the Mini-Catalogs.

B. Objectives of the Clearinghouse

1. The Eisenhower National Clearinghouse for Mathematics and Science Education supports mathematics and science teaching and learning.

2. The Clearinghouse maintains a catalog of curriculum resources that is as comprehensive as possible in terms of media type and scope of subject matter. Wherever possible, this catalog provides sufficient information to allow for the evaluation of resources by clientele.

3. At its repository, the Clearinghouse makes available for inspection and evaluation curriculum resources for the mathematics and science education of K–12 students.

4. High priority is given to resources which:

- Directly support national goals in mathematics and science education.
- Demonstrate alignment with current national standards in mathematics and science education.
- Have been developed by, or as a result of, the actions of Federal agencies.
- Are resources of high quality.
- Contain fundamental components of quality materials.

5. To the extent possible, resources other than those identified as high priority are collected for the physical collection housed in the Clearinghouse repository or are included in the collection of electronically linked or stored resources (the online collection). Attempts are made to maintain a comprehensive catalog of all resources available in both the physical and online collections.

6. Resources distributed by the Clearinghouse are made available using both traditional and electronic distribution methods.

C. Components of the ENC Mathematics and Science Curriculum Collection

1. The ENC Physical Collections

The Eisenhower National Clearinghouse Repository

This repository contains at least one copy of each resource physically collected by Clearinghouse staff. The physical collection is a non-circulating collection which includes books and other print materials, audio and video tapes, computer disks, videodiscs, compact discs, CD-ROMs, kits, laboratory materials, and any other curriculum resources that are donated to or purchased by the Clearinghouse for the curriculum resource collection.

The Capital Collection

The Capital Collection is a non-circulating collection to be housed at The George Washington University in Washington, DC. This physical collection contains a subset of items found in the Clearinghouse repository. Whenever possible, one copy of items identified as critical for inclusion by ENC advisory boards and staff are placed in this collection. Additional items felt necessary to facilitate the use of this limited collection by teachers, educators, and government officials in the Washington, DC, area are included on either a temporary or permanent basis.

2. The ENC Online Collection

The term "online collection" refers to resources which do not necessarily exist physically in the Clearinghouse repository, but which are referenced in the Clearinghouse catalog and are made available to teachers electronically through the use of electronic access tools available to teachers. Online resources include resources cataloged but not acquired by the Clearinghouse, specialized text and image databases maintained at the Clearinghouse, and a variety of resources accessible over the Internet with the emphasis being on World Wide Web resources.

To provide access to the ENC online collection, ENC maintains a World Wide Web site called ENC Online. ENC Online contains resources placed online by ENC, including the text of all ENC publications; provides access to the ENC catalog, the Resource Finder; provides teachers and other educators specialized information through services such as What's New at ENC Online and the Professional Development Exchange; and provides linkages to WWW sites of use in mathematics and science education. Whenever possible, the resources contained in or linked to through ENC Online are cataloged in Resource Finder to aid users in the identification of appropriate online resources.

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II. Clientele

A. K–12 Teachers

The principal clientele of the Clearinghouse are those who teach science and/or mathematics in grades K–12.

B. K–12 Preservice Teachers

Persons training to be elementary level teachers and science or mathematics teachers in the middle and high school levels are targeted clientele for the Clearinghouse.

C. Other Clientele

- K–12 students involved in mathematics and science related activities.
- All persons involved in the design, development, delivery, and evaluation of K–12 mathematics and science curricula, including such individuals as department heads, principals, curriculum developers, supervisors, educational researchers, etc.
- Mathematics and science teacher education faculty at colleges and universities throughout the country.
- School librarians and library media specialists.
- Parents and community members interested in working with students and/or schools as they pursue new approaches to mathematics and science education.
- Others involved with professional development in K–12 mathematics and science such as business and industry partners, consultants, professional development administrators, etc.

III. Scope and Boundary

A. Collection Guidelines

1. Alignment with National Goals and National Standards

- Emphasis is on resources that support national goals in mathematics and science education.
- Items that are aligned with current national mathematics and science education standards are given priority in the collection development process.

2. Curriculum Level and Subject Treatment

- The ENC collection contains mathematics and science curriculum resources and professional development resources appropriate for use by K–12 teachers.
- Resources developed for use outside of the K–12 range are collected only when such resources can clearly be used in special circumstances as part of a K–12 curriculum.

3. Languages

- The primary language of resources in the collection is English.
- Resources in Spanish and other languages, when available and appropriate for K–12 use in multicultural settings, are also to be included.

4. Chronology

- Emphasis is on Federal curricular resources developed for K–12 mathematics and science education available after September 30, 1992.
- Items from non-Federal sources available in the same time frame are also to be collected.
- Older items, particularly those developed as a result of Federally-funded programs or projects, are also included.

5. Geographical

- Curriculum resources appropriate for use in the United States and its possessions are the focus of the ENC collection. This may include resources produced in other countries.
- Resources of a local, state, and/or regional nature are included in the collection when interest in these resources exists at a national level and easy access to such resources cannot be readily provided by the Eisenhower Regional Consortia. Such resources shall be included in the catalog and online collection if they are not available for the physical collection.

6. Cultural Diversity

- Collection resources should, to the extent possible, reflect cultural diversity or exhibit cultural neutrality.

A. Collection Guidelines (cont'd)

- Collection resources should, to the extent possible, exhibit sensitivity to issues related to gender, disability, underserved populations, and special-needs populations.
- Collection resources should, to the extent possible, communicate respect for and appreciation of diverse cultures and the global community.

7. Sources of Resources

a. Collection efforts focus on resources for K–12 developed by Federal agencies directly or by individuals or groups who receive funding from Federal agencies to produce resources.

b. To the extent possible, mathematics and science curriculum resources developed by non-Federal groups, agencies, and/or individuals are collected.

c. To the extent possible, the collection contains resources developed and/or recommended by pertinent groups and individuals including, but not limited to:

- American Association for the Advancement of Science
- American Federation of Teachers
- Eisenhower Demonstration Site staff
- Eisenhower Regional Consortia
- Eisenhower State coordinators
- Local supervisors of mathematics and science
- Mathematical Sciences Education Board
- National Council of Teachers of Mathematics
- National Education Association
- National Research Council
- National Science Teachers Association
- School librarians and media specialists
- School Science and Mathematics Association
- State supervisors of mathematics and science
- Teachers

8. Special Resource Characteristics

The Clearinghouse, to the extent possible, attempts to acquire resources for the physical and/or online collections that are not generally available to teachers and/or that are generally not included in collections and catalogs. Among these items are:

- Plans for computer labs
- Data appropriate for student use in mathematics and science activities
- Documentation of practices and professional craft knowledge
- Documentation of experiments

B. Collection Formats

1. Resources to Be Included in the Physical Collection

Print Resources

- Activity guides
- Bibliographies
- Curriculum documents (frameworks, course guides, syllabi, and other instructional plans)
- Directories (human and material resources, agencies, sources of support)
- Program descriptions and reports
- Published articles that present curriculum approaches
- Sourcebooks and reference resources
- Teacher and student guides or manuals
- Technical information for instructional equipment and procedures
- Tests, performance tasks, portfolio examples, scoring rubrics, authentic assessment materials
- Textbooks, workbooks, and other student resources

Magnetic and Optical Media

- Audio CDs
- Audiotapes
- Computer Software
- Images (GIF, JPEG, EPS, etc.)
- Optical Media (Laserdisc, CD-I, CD-ROM)
- Videotapes

Projected Media

- Films
- Microfiche and microfilm
- Overhead transparencies and transparent materials
- Slides and filmstrips

B. Collection Formats (cont'd)

Real Objects

- Assorted instructional aids (posters, maps, charts, etc.)
- Calculator-based laboratory materials and calculators
- Games and simulations
- Instructional models

Kits

- Laboratory or field equipment
- Manipulative materials
- Microcomputer-based packages and probeware

2. Resources to Be Included as Part of the Online Collection

Resources on ENC Computer Systems and Maintained by the Clearinghouse

- The ENC catalog of curriculum resources (the Resource Finder)
- Text databases, particularly items included on ENC CD-ROM products
- Image databases
- Catalogs of materials and resources developed by others but mounted on the ENC computers

Resources at Non-ENC Locations

- WWW sites containing mathematics and science related resources
- Other resources accessible through the Internet that may be developed and made available using new technologies

IV. Resource Identification and Acquisition Process

A. Responsibility for Identification and Acquisition of Resources

1. Physical Collection

The Acquisitions Team of the Instructional Resources Group is responsible for the identification of possible resources to be included in the ENC physical collections. This team is frequently aided in their efforts by members of the Content Support Team and the Professional Development Team and other ENC staff members.

2. Online Collection

The ENC Online Team, on a monthly basis, identifies new online resources that are candidates for inclusion in the ENC online collection. They are supported in this effort by the ENC Content Support Team, the Professional Development Team, and other ENC staff members.

B. External Sources Providing Guidance

- ENC Mathematics and Science Advisory Boards
- Staff of the Capital Collection site
- Staff of the Eisenhower Regional Consortia
- Staff of the Eisenhower Clearinghouse Demonstration Sites
- Persons outside the Clearinghouse who make recommendations
- Formal and informal groups of teachers and other educators convened for the purposes of making recommendations

C. Other Sources of Information Monitored by ENC Staff

- Indexing services
- General review sources
- Subject specific review sources such as mathematics and science education journals, technical journals, middle school journals, and elementary education journals
- General selection sources such as monographs, annuals, guides, and online databases
- Online resources such as news groups, mailing list services, and bulletin boards

D. Development of an Acquisition Plan

The Associate Directors for the Instructional Resources Group and Publishing Group shall work with the appropriate teams in those groups (Acquisitions, Content Support, and Online) to develop and monitor acquisitions plans for both physical and online resources for the Clearinghouse collections.

V. Selection Process

A. Nature of the Selection Process

Upon receipt of a physical resource or the identification of an online resource, every effort is made to determine the appropriateness of including the resource in the ENC collections. Resources are reviewed by appropriate ENC personnel to determine if they should be selected for inclusion in either the physical or online collections. Additionally, in the case of online resources, the decision is made whether the resource should be entered as a record and link in the ENC Resource Finder, or whether the resource should also be included as a link on ENC Online. Criteria for this review are included in ***Section VI*** of this document.

B. General Selection Process

1. Physical Collection

Resources Produced by Federal Programs or as a Result of Federal Programs

All physical resources known to have been produced by Federal programs or as a result of Federal funding and identified as being within the domain of the Clearinghouse are given highest consideration for inclusion in the Clearinghouse physical collection.

Resources Produced by Individuals and/or Organizations Not Funded by the Federal Government

The Mathematics and Science Resource Specialists review all non-Federally funded physical resources using the criteria presented in ***Section VI*** of this document and attempt to determine if they should be selected for the ENC physical collection.

When the Mathematics and Science Resource Specialists cannot make a clear decision whether to include a resource in the Collection, then the Associate Director for Instructional Resources determines if a particular physical resource is to be selected for inclusion in the ENC physical collection.

2. Online Collection

Resources Produced by Federal Programs or as a Result of Federal Programs

Whenever possible, online resources known to have been produced by Federal programs or as a result of Federal funding and identified as being within the domain of the Clearinghouse are given highest consideration by the Mathematics and Science Resource Specialists for the Clearinghouse online collection. Federal online resources identified as appropriate for inclusion in the Clearinghouse collection are included in the Resource Finder.

B. General Selection Process (cont'd)

When Federally-funded or sponsored online resources are of high quality and/or provide unique content as determined by the Resource Specialists and the ENC Online Team, the items are also to be linked to ENC Online.

Resources Produced by Individuals and/or Organizations Not Funded by the Federal Government

The Mathematics and Science Resource Specialists and members of the Online Team review all non-Federally funded online resources using the criteria presented in ***Section VI*** of this document and attempt to determine if they should be included in the ENC online collection. Items identified for the online collection are included in the ENC Resource Finder.

When identified resources are of high quality and/or provide unique content as determined by the Resource Specialists and the ENC Online Team, the items are also to be linked to ENC Online.

VI. Selection Criteria

A. Appropriateness of Content to the Mission of ENC

1. Domain

Subject matter must be in the domains of mathematics or the natural sciences, pure or applied.

2. Grade Level

All items selected must be useful in supporting instruction in grades K–12, be that instruction on-level, remedial, or accelerated.

3. Nature and Scope of Instructional Resources

Instructional Plans

All comprehensive plans for activities, lessons, sets of lessons, instructional units, or courses must be of a nature that would enable a teacher to implement or modify instruction to meet specific classroom needs. To be useful for the ENC collection, the plans should include such elements as background information, instructional goals or objectives, concepts, procedures, or skills to be learned, lists of handouts and resources, homework assignments, readings or specific activities, and practical guidelines for teaching lessons and assessing student performance.

Instructional Resources

Instructional resources selected must be support resources, instructional aids or media, kits, equipment, tests, performance tasks, portfolio examples, authentic assessment tools, professional development resources, or background resources suitable for direct use by teachers in the development, implementation, and assessment of instructional activities.

Supplemental Resources

Supplemental resources must be print or non-print items or multimedia formats that are directly usable with students for instructional purposes, though in some cases the resources may have not been specifically designed for instructional purposes.

Review Resources

Items that teachers might require as they review and evaluate the utility of instructional resources they are considering for use with their students may be selected when appropriate.

B. Availability

Typically items selected for inclusion in either the physical or online collections of the Clearinghouse must be readily available to educators commercially, from a professional organization, from some other commonly recognized source, or through ENC. Special efforts are made to secure items for the Clearinghouse that are hard for teachers to obtain elsewhere but can be cataloged and distributed by the Clearinghouse.

For items in the online collection, the linkages to that resource must be in place and active for the resource to be selected. In the instance where linkages are not active, are inconsistently available, or are poorly maintained, the item is either not selected or is removed from the ENC collection and, if the item is linked directly to ENC Online, the item is removed from ENC Online.

Exceptions to the guidelines regarding availability are made for endangered items that are acquired retrospectively for archival purposes and other key items that may be out of print or otherwise no longer generally available. Additionally, many items in the online collection may only be available through electronic means.

C. Resources Considered Unsuitable for the ENC Physical Collection

- Resources that do not meet the criteria outlined in *Section VI A* and *VI B*
- Brief items such as individual worksheets or single-page, unsupported lesson plans
- Advertising and promotional materials
- Catalogs
- Fliers, brochures, and similar materials
- News releases
- Newsletters that do not contain instructional resources

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D. Resources Considered Unsuitable for the ENC Online Collection

- Resources that do not meet the criteria outlined in ***Sections VI A*** and ***VI B***
- Resources that are brief and provide little or no unique information
- Online resources which are primarily advertising or promotional in nature
- Online commercial catalogs
- Resources that are primarily sites linking to other sites without providing added value, such as search tools or organizational structures
- Resources that have not been altered or updated in over a year, unless the information contained in such resources remains unique and usable in the classroom
- Resources that are poorly developed and maintained technologically, or that provide unreliable service

E. Disposition of Resources Submitted but Not Selected

Items submitted to the Clearinghouse for possible inclusion in the physical collection are, in general, not returned to the submitter.

Resources that are inappropriate for inclusion in the Clearinghouse physical collection but may be of interest to the ERIC system are forwarded to the ERIC Clearinghouse for Science, Mathematics, and Environmental Education for processing. (ERIC/CSMEE cooperates with ENC in a similar fashion.)

Resources that are incomplete, do not fall within the scope of the Clearinghouse collection, are not appropriate for inclusion in the ERIC system, or are otherwise inappropriate or cannot be processed are discarded unless the submitter has provided for the return of the resource at the time of submission. Whenever possible, items to be discarded are made available to other projects where they may be useful or to educators within the Columbus, Ohio, area.

VII. Prioritization of Catalog Record Development

A. Nature of the Priority System

The purpose of the Clearinghouse is to collect, to the extent possible, all mathematics and science curriculum resources that are in existence. Obviously, this task cannot be completed in a random fashion. The Clearinghouse chooses to adopt a priority system to aid in making the development of physical and online collections manageable.

These priorities govern the nature of the abstracts and catalog records produced and the speed with which resources are included in the ENC catalog. For physical resources, priorities also govern the effort put into obtaining an item for the Clearinghouse physical collection. For online resources, priorities govern the speed and effort placed into linking the resource into the ENC online collection and, to some extent, the placement of items on ENC Online.

Once selected, all items begin with an average priority. Outstanding quality resources and resources initially judged to be closely aligned with national standards generally are given high priority. Low quality resources are generally assigned a low priority.

Throughout processing, materials are examined by the IR Group staff (graduate student abstractors and the Science or Mathematics Resource Specialists) to determine if they exhibit fundamental components of quality materials or characteristics associated with innovative new approaches to education. The processing priorities of materials displaying these components and characteristics are increased during processing. These designations are used for internal processing and to assist the Advisory Boards and staff in selecting materials for ENC products such as special topic catalogs and CD-ROM products.

Resources identified as critical to the production of ENC products such as mini-catalogs, CD-ROM compendia, and the like, are given higher priority in the acquisitions and catalog record generation processes.

Items assigned an initial high priority are generally processed into the catalog more rapidly and may have more detailed abstracts.

Average priority items are processed as part of the normal processing queue for the Clearinghouse.

Items assigned a low priority are generally processed on an "as-time-allows" basis. Catalog records for such items may contain only a limited abstract and abbreviated catalog information.

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B. Priorities for Acquiring, Processing, and Cataloging Items in the Physical Collection

1. General Quality as a Factor Affecting Priority Related to the Physical Collection

Approach to Quality Assessment

To receive a high priority during processing, an item must exhibit a sufficient array of the features indicated below. Few items exhibit all the desired features, and some criteria are inappropriate for some types of instructional resources. The following list of features to consider is intended to assist in assessing quality and is suggestive, not prescriptive. Good resources exhibit most or all of the criteria; average resources exhibit many; and poor resources exhibit few or none. A holistic approach to setting priorities is used in applying these criteria. In some cases, perceived strengths may offset deficiencies in resources.

In no instance is an item that is curricular in nature and within the domain of the Clearinghouse to be excluded based on quality considerations. Rather, resources of poor quality are assigned a low priority and are processed only after other resources of higher priority are processed and cataloged.

Features of Quality Resources

Educational Goals and Objectives

- Clarity of instructional goals and objectives in all appropriate domains
- Evidence of desired educational outcomes
- Responsiveness to national and professional priorities
- Alignment with national standards in mathematics and science education

Organization

- Ease of use
- Presence of table of contents, preface, glossary, and/or index

Content

- Accurate and valid presentation of information
- Information included without major omissions
- Inclusion of sound and substantive information
- Logical development of ideas
- Up-to-date data and illustrations

B. Priorities for Acquiring, Processing, and Cataloging Items in the Physical Collection (cont'd)

Teaching Strategies

- Appropriate for target group
- Clarity of methodology
- Explicit identification of concepts
- Reflection of a variety of teaching/learning modes
- Appropriate uses of technology

Activities

- Logical relationship among basic objectives and activities
- Appropriateness and relevance of activities to students' experiences, interests, levels of comprehension, and grade level
- Suitability of resources used in activities

Stereotyping, Bias, and Social Inequity

- Avoidance of statements of racial, gender, or ethnic bias and stereotyping
- Promotion of mutual understanding and respect between races and ethnic groups
- Consideration of individual differences
- Advancement of the principle of "education for all"

Suitability of Resources for Learners

- Relationship of content to students' experiences, interests, levels of comprehension, age, and maturity levels
- Suitability of vocabulary, sentence and paragraph structure, and concept level to the age group that will use the resources
- Facilitation of active involvement or engagement of learners
- Balance on issues related to the interaction of science and society
- Resources and technologies appropriate to the developmental level of students and the subject matter at hand

Completeness of Bibliographic References Contained within Resources

- Information included in the bibliographic citations so that the user can obtain resource materials
- Indication of grade level, if needed

B. Priorities for Acquiring, Processing, and Cataloging Items in the Physical Collection (cont'd)

2. Specific Indicators of Quality and Innovation in the Priority-Setting Process

Fundamental Components of Quality

Resources are examined to determine if they possess a selection of the characteristics listed below, that are identified as being fundamental components of quality materials. To be given high priority, a resource must present content that appears to be accurate in light of current research and the historical context of the item. Additionally, to gain high priority, a resource must display at least six of the following characteristics identified by the ENC Mathematics and Science Advisory Boards:

- Demonstrate alignment with national standards in mathematics or science education
- Address key themes and concepts so that superficial treatment of topics is avoided
- Facilitate the development of higher order thinking skills, including critical thinking, abstract reasoning, and decision making
- Promote student engagement, collaboration, and discourse
- Link related concepts within and across disciplines
- Encourage students to explore a variety of approaches and topics including those of a contentious and controversial nature
- Promote the development of connections among students and their families, as well as with business, industry, and the community
- Reflect current research in mathematics and/or science education
- Employ multiple means of assessment that reflect what students know, how they think, and what they can do
- Elicit positive evaluation and/or recognition by others (e.g., professional associations, national projects, and practitioners, etc.)
- Provide teachers' guides and/or supporting resources that provide flexibility and suggest appropriate extensions for learners
- Demonstrate sensitivity to issues of diversity and equity

Innovative Characteristics

Resources which possess innovative characteristics in addition to fundamental components of quality materials are also given high priority in acquisition and processing. Such resources often are experimental in nature and exhibit one or more of the following characteristics as identified by the ENC Mathematics and Science Advisory Boards:

- Approach subject matter in new or innovative ways
- Employ educational techniques or approaches not commonly used in most schools

B. Priorities for Acquiring, Processing, and Cataloging Items in the Physical Collection (cont'd)

- Explore different and/or unique applications of traditional techniques or technologies
- Use new/emerging technologies
- Explore subject matter not traditionally part of the curriculum
- Explore subject matter from a non-traditional perspective (e.g., grade level, multiculturalism, integrated curriculum, special learners, etc.)
- Go beyond traditional learning environments

3. Review of the Priority System

The priority system is reviewed on a regular basis by the ENC Management Team and the ENC Mathematics and Science Advisory Boards to ensure the collection addresses Federal goals and national standards, clearly identifies fundamental components of quality materials, identifies innovative characteristics in resources, addresses needs at all grade levels, and provides an appropriate sampling of all mathematics and science curriculum resources.

Effectiveness of the priority system is assessed by the project Evaluator through the examination of client satisfaction related to the nature and scope of resources included in the physical collection.

C. Priorities for Including Items in the Online Collection

Priorities for the inclusion of items in the online collection and for the generation of catalog records for those items, in general, parallel those outlined for the physical collection. Greater selectivity is exercised in the inclusion of items as links in ENC Online, with the emphasis being on the inclusion of only resources of higher technical quality and more significant content.

When questions arise related to the inclusion of an online resource in the ENC collection, priorities are applied to assure the inclusion of only those resources found to exhibit many of the fundamental components of quality and/or display significant innovative characteristics as online resources.

Priorities are periodically examined by ENC Online Team and ENC Management Team to ensure the inclusion of key online resources.

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VIII. Role of Quality Assessment in Catalog Record Development

A. ENC Commitment to a Comprehensive Collection

The staff and advisory groups of the Eisenhower National Clearinghouse recognize the need for teachers to be able to quickly and easily access information about mathematics and science resources that are of high quality, that support national goals, and that are aligned with current national standards. One approach to meeting such a need would be for the Clearinghouse to collect and catalog only those resources that meet the above criteria. The Clearinghouse has, however, made the conscious decision to collect and catalog K–12 mathematics and science resources within the selection framework outlined in ***Section VI*** of this document. Adopting such a broad selection policy is necessary for several reasons. Among the most compelling of these reasons are:

- No internal review process resulting in the exclusion of items from the Clearinghouse collection would be acceptable to all clientele of the Clearinghouse.

- It is not feasible for the Clearinghouse to institute and manage an unbiased external peer review process and, at the same time, maintain an effective flow of materials into the Clearinghouse and catalog.

- Institution of an exclusionary process based on either internal or external review would place the Clearinghouse in a position of continually having to justify why resources were or were not included. Such a policy may, ultimately, discourage the submission of items to the Clearinghouse. Additionally, to guarantee fairness, an appeals process would need to be instituted which would allow for the review of decisions made related to the inclusion or exclusion of materials from the ENC collection.

- At no time can the ENC collection and catalog be truly comprehensive or fully up-to-date. The existence of an exclusionary policy would lead some individuals to incorrectly assume that the absence of a particular resource from the ENC catalog means that the resource was of low quality, did not address national goals, or was not aligned with national standards. A resource may not appear simply because ENC staff has not yet identified the item for inclusion or that the provider of the resource has not yet submitted it for review and inclusion.

- New resources which utilize untried approaches and new technologies might be excluded from the Clearinghouse because they do not fit within current definitions of quality or do not meet current national standards. Such materials actually may be defining the future directions of mathematics and science education.

B. Addressing the Need for User Access to High Quality Materials

In making the decision to pursue a comprehensive collection development policy, ENC has had to seek an appropriate method of ensuring that teachers can easily find materials that are of high quality, meet national goals, and are aligned with national standards. To meet this need, the ENC catalog includes special information generated by sources external to the Clearinghouse on the quality of materials.

1. Including Special Fields in the ENC Catalog

A standards field is included in the ENC catalog. This fully searchable field is used to identify all known linkages of the cataloged resource with both national standards and state standards or curriculum frameworks.

An evaluation field is included in the ENC catalog. This fully searchable field has seven sub-fields related to the evaluation of materials by persons and groups external to ENC. These sub-fields include:

- Awards
- Developer Field Tests
- Formal Evaluation
- General Comments
- Organizational Reviews
- Published Reviews
- User Comments

2. Pursuing Evaluation Information

ENC staff requests submitters to provide information they might have related to the evaluation of the materials they submit and the linkages of those materials to national standards.

Staff searches the available literature for reviews, research reports, field test data, and other formal and informal evaluation information. Whenever possible, online documents related to these references are made available.

ENC regularly solicits user comments from persons interacting with ENC online systems or participating in activities where gathering such comments might be appropriate. ENC staff develops summaries of evaluations provided by users. As numbers of user responses increase, ENC staff ensures that summaries accurately reflect the source, quantity, and content of responses to resources.

ENC staff encourages organizations to undertake efforts to evaluate materials and assisting such undertakings when possible. The results of such evaluative efforts would be included with the catalog records of the items evaluated. ENC works to facilitate the efforts of groups wishing to undertake evaluation activities. Whenever possible, ENC facilitates evaluation activities sponsored by others and includes the results of those activities in the ENC catalog.

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B. Addressing the Need for User Access to High Quality Materials (cont'd)

3. Providing Selective Access to Online Resources through ENC Online

ENC staff provides selective access to higher quality online resources through the inclusion of those resources as links to the ENC Online WWW site.

Each month, a group of educators and WWW specialists within the Clearinghouse selects 13 sites as being some of the highest quality sites of interest to mathematics and science educators, and highlights those sites by providing links to them on the ENC Digital Dozen Web page. These sites are subsequently cataloged and remain as links on the ENC Online Web site.

IX. Collection Maintenance and Monitoring

A. Physical Collection Inventory and Maintenance

Physical collection inventory and maintenance are conducted by the ENC Materials Processing Team.

In general, resources are not removed from the ENC collection. The archival nature of the repository dictates that resources be maintained, in some form, indefinitely. For collection management purposes, it may become necessary to archive some seldom used resources at separate locations and make some resources available to potential users only on special request. Cataloging reflects location and availability of resources.

All efforts are made to maintain the collection in such a fashion as to keep rare, fugitive, and historical curriculum resources in mathematics and science available for use by educators.

B. Replacement of Physical Resources

Consideration is given to replacing items lost from the collection, as identified by inventory taking, patron requests, or otherwise.

Items in poor physical condition but in high demand may also warrant replacement.

Older versions of items will not be replaced by newer versions. Rather, older versions are maintained in the collection along with newer versions, if space permits, or archived upon the arrival of newer versions if space limitations dictate.

C. Removal of Items from the Physical Collection

As the ENC collection is a repository collection, items are not removed from it.

If space limitations dictate, items in the ENC collection may be archived at other locations, as long as those items are preserved and remain accessible.

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D. Removal of Items from the Online Collection

Online resources may not remain available due to changing interests of the resource provider, the availability of funding, and a variety of other reasons. If an online resource is known to no longer be accessible, it is removed from the ENC Resource Finder. If that resource is also linked to the ENC Online Web site, it is removed from ENC Online.

If computer resource limitations dictate, items may be removed from ENC Online. Generally these resources are retained in Resource Finder, as long as they remain accessible online.

The number of sites linked to ENC Online is limited in an effort to promote ease of use of the site. Items are periodically removed from ENC Online to maintain the overall number of links at a manageable level. Again, removed resources are retained in the Resource Finder, as long as they remain accessible online.

E. Collection Evaluation

The Associate Director for Instructional Resources in conjunction with the ENC Evaluator work together to assure the regular evaluation of the physical and online collections of the Clearinghouse and the policies governing those collections. The Associate Director for Publishing works with the ENC Evaluator to assure the regular evaluation of ENC Online.

The evaluation process typically includes input from:

- Appropriate ENC staff
- ENC Steering Committee
- ENC Mathematics Advisory Board
- ENC Science Advisory Board
- ENC clientele

At appropriate intervals, efforts are made to determine the extent to which the ENC collection is representative of the universe of mathematics and science materials currently available to teachers and students. This evaluative effort is, whenever possible, conducted by outside consultants.

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